WEATHER SATELLITE RECEIVER SU-18

(FLOPPY DISK VER. NO. 085-0122-016)

OPERATOR'S GUIDE

BASIC OPERATING PROCEDURE

INSERT FD (Floppy Disk) ..... behind Keyboard (See below.)

↓

POWER ON

↓

SYSTEM INITIALIZATION (Operating Mode Confirmation) . P.2

↓

(*) ORBITAL DATA CONFIRMATION P.3

↓

(*) DATE/TIME CONFIRMATION P.6

↓

(*) L/L POS & WATER TEMP CONFIRMATION P.6

↓

RECEIVING P.7

(in auto rec)

↓

GRID CALIBRATION P.9

↓

TEMP CALIBRATION P.9

↓

PRINTING P.19

↓

RECORDING ... P.11

↓

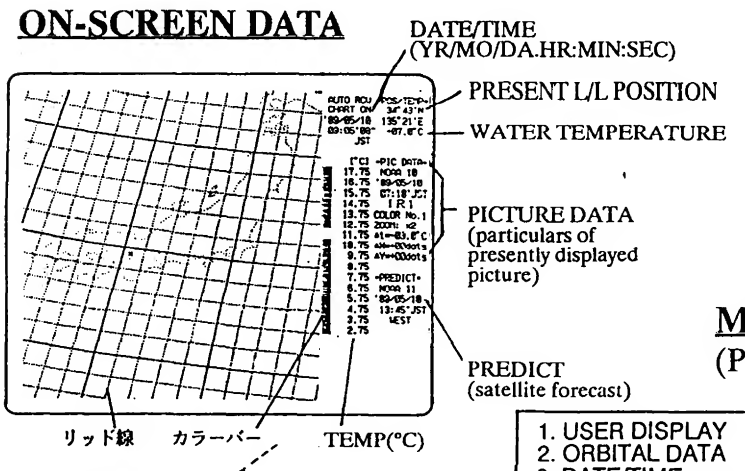
(in auto rec) PLAYBACK P.13

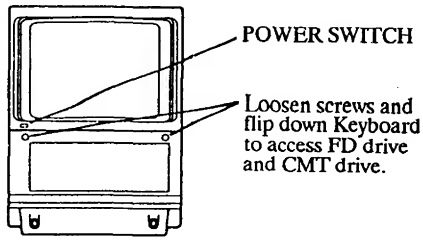
(*) Confirmation necessary to receive picture properly.

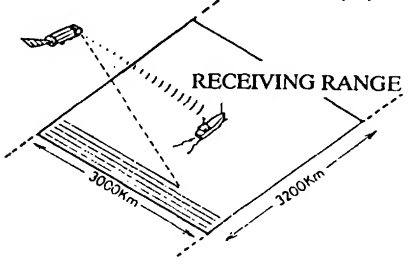
DATA ANALYSIS

OTHER FUNCTIONS

ON-SCREEN DATA







MENU

(Press MENU key to display menu.)

1. USER DISPLAY	11. RECEIVE PREDICT
2. ORBITAL DATA	12.
3. DATE/TIME	13. FD SAVE/LOAD
4. POSITION/TEMPERATURE	14. TEMPERATURE CALIBRATION SETTING
5. CMT RECORD	15.
6. CMT PLAYBACK	16.
7. CHART DATA	17.
8. EVENT DATA	18. RTTY RECEIVE CHECK
9. USER COLOR	19.
10. PICTURE PROCESSING	20. SYSTEM INITIALIZATION

No. OS-E6247-0D
(9003,tosa)

PICTURE PLAYBACK

(Avoid playback when the receiving time is approaching, provided you wish to receive the data.)

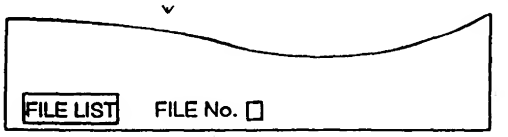
PREPARATION

Insert cassette or FD containing the picture to be played back.

(1) Cassette Tape

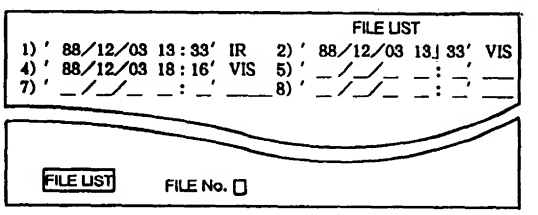
CALL UP CMT PLAYBACK MENU

MENU ⇒ 6 ⇒ ENT



TO CONDUCT FILE SEARCH

F 1



SPECIFY FILE NUMBER

Specify File No. ⇒ ENT (VIS: Visible-light, IR: Infrared)

[FILE PLAYBACK] ⇒ [PICTURE PROCESSING] ⇒ [GRID CALCULATION]

(Messages displayed during play back process)

If, for example, file no.4 ('88/12/03 18:16', visible-light picture) is selected, it is transferred to the memory bank which is displayed at the right-hand side of the screen. At that time, existing chart/event data in the memory is replaced with those of picture to be played back.

(2) FD

TO LOAD FD

MENU ⇒ 1 ⇒ 3 ⇒ ENT ⇒ F 2

PICTURE SELECTION

INFRARED

IR (IR 1)

VISIBLE-LIGHT

VIS (IR 2)

⇒ ENT

PICTURE DISPOSAL

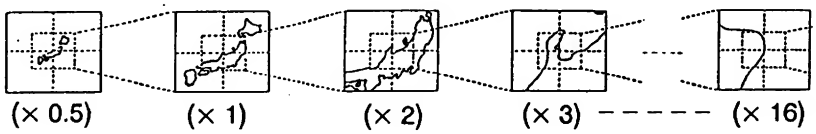
SHIFTING

IMAGE (right side of keyboard) ⇒ { ↑ ← → ↓ }

(□ key [below + key] returns own ship mark to screen center.)

ENLARGING/ CONTRACTING

Enlarge



Contract (to alternate ×1 → ×0.5, SHIFT +)

NOTE: To enlarge a specific area, place the cross cursor on the area desired, then press . (Cross cursor not operative in × 0.5 zoom.)
To turn cross cursor off, press IMAGE key (right side of keyboard).

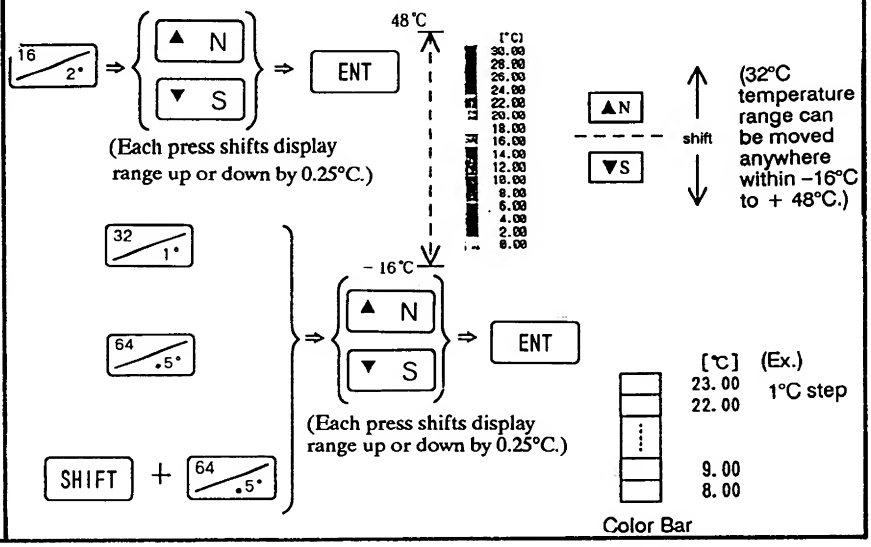
SETTING TEMPERATURE RANGE (Infrared picture)

SPECIFY BASIC RANGE
(2°C step: 32°C width)

SPECIFY ENHANCEMENT RANGE
1°C step (16°C width)

0.5°C step (8°C width)

0.25°C step (4°C width)



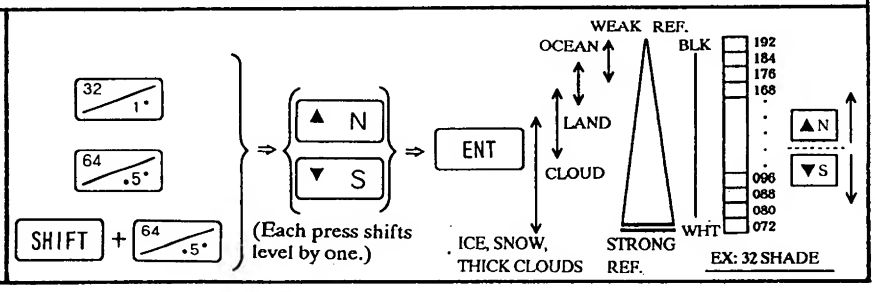
VISIBLE-LIGHT PICTURE SHADE RANGE

ENHANCEMENT SHADE RANGE

32 SHADES

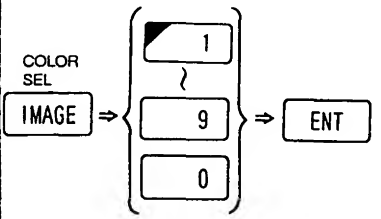
64 SHADES

128 SHADES



COLOR BAR SELECTION

PICTURE



1. Cool-to-warm color (1)
2. Complementary color (1)
3. Complementary color (2)
4. Cool-to-warm color (2)
5. White-to-yellow (one shade only)-to-gray shade
6. White-to-gray shade
7. White-to-gray-to-blue color
8. Blue-to-yellow (one shade only)-to-reddish brown color
9. Blue-to-light blue, green, yellow, brown, and red-to-reddish brown color
0. User color

(For user color, see below.)

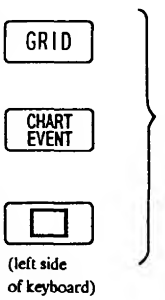
Shifting color bar

SHIFT + ▲ N ---- shift bar upward
SHIFT + ▼ S ---- shift bar downward

GRID

CHART/EVENT/ OWN SHIP (× mark)

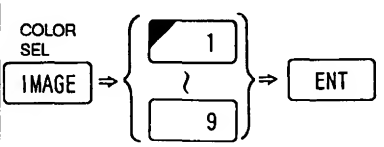
CURSOR (+)



1: RED 2: GRN 3: BLU
4: WHT 5: YEL 6: PPL
7: CYN 8: BLK 9: GRY

USER COLOR BAR SETTING

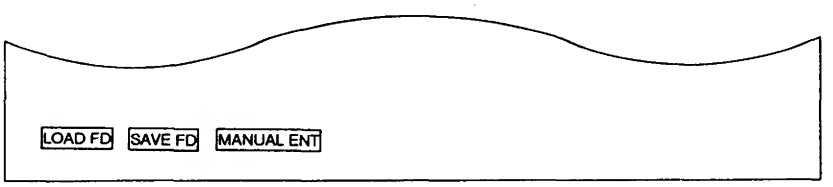
COLOR SELECTION



(Select color which best approximates picture color arranement.)

CALL UP USER COLOR MENU

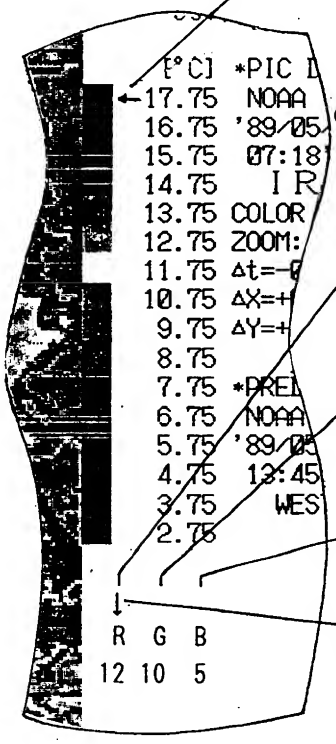
MENU ⇒ 9 ⇒ ENT



TO GO TO USER COLOR SETTING SCREEN

F 3 (manual entry)

MIXING PRIMARY COLORS (R/G/B)



① This arrow points to the color whose primary colors presently can be mixed.

These keys shift the arrow. { UP- - - ▲ N / DOWN - ▼ S }

②Numeral keys 1~6 are used to select the degree of mixing of primary colors (R,G,B).

RED 1 / 4 ▲▼ --> R (changes degree of mixing of red color)

GRN 2 / 5 ▲▼ --> G (changes degree of mixing of green color)

BLU 3 / 6 ▲▼ --> B (changes degree of mixing of blue color)

Arrow points to primary color which presently can be mixed by operating corresponding numeral keys (1~6).

(EX.)
Pressing of 2 key moves the arrow on the "G" mark, then strength of green color can be varied with 2 and 5 keys.

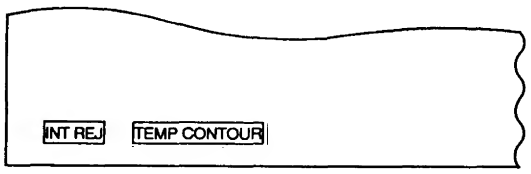
If R, G, B levels are 0, 0, 0 (or 15, 15, 15), the color becomes black (or white).

TO SAVE COLOR BAR	ENT (Color bar is registered under the number "0".) Although color bar arrangement is retained in the memory when the power is turned off, it is a good idea to store this information on a floppy disk, as follows.
TO DISPLAY SAVED COLOR BAR	COLOR SEL IMAGE ⇒ 0 ⇒ ENT
TO SAVE TO FD	MENU ⇒ 9 ⇒ ENT ⇒ F 2
TO LOAD FD	MENU ⇒ 9 ⇒ ENT ⇒ F 1

PICTURE PROCESSING (INT. REJ/TEMP. CONTOUR)

CALL UP PICTURE PROCESSING MENU

MENU ⇒ 1 ⇒ 0 ⇒ ENT

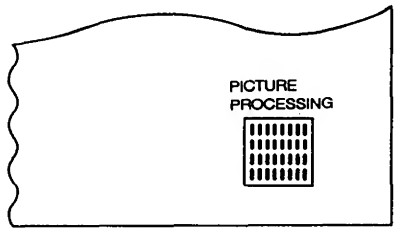


TO REDUCE INTERFERENCE

F 1 -------> On-screen interference is reduced.
(× 0.5 zoom .... Approx. 10 min.
others ..... 2 to 3 min.)

TO PAINT TEMPERATURE CONTOUR

F 2 -------> Temperature contour is painted using presently selected temperature interval.



AUTO PRINT MODE SETTING

(After receiving is completed, the picture is printed out automatically [in 10 different types at max.] if auto print mode is turned on.)

CALL UP SYSTEM INITIALIZATION MENU

MENU ⇒ 2 ⇒ 0 ⇒ ENT

TO SET AUTO PRINT MODE (maximum 10 pages; 1/10~10/10)

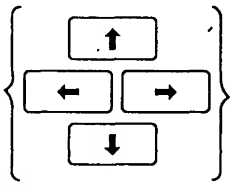
F 2

1/10 PAGE

PRINT	ON	OFF
NO. OF PRINTS	1	
PICTURE	IR	VIS
	STEP	2.0 1.0 0.5 0.25 °C
	CTR TEMP	+16.0 °C (1.0~33.0 °C)
CTR OF PIC	OWN SHIP	LAT/LON
		LAT 00° 00' N
		LON 000° 00' E
ZOOM	x 0.5 1 2 3 4 5 ----------16	
COLOR BAR	No.6	
PIC PROC	ON	OFF
	INT REJ	TEMP CONTOUR

PRCDNG PAGE | NEXT PAGE | SAVE FD | LOAD FD

SET EACH MODE



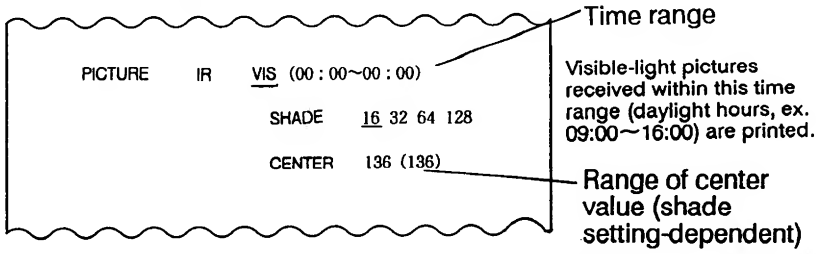
Locate the cursor intersection on the mode desired, by operating the arrow keys.

⇓

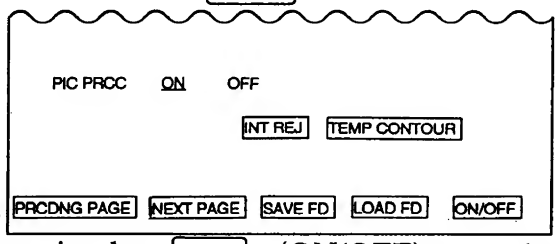
Selected items are underlined.

NOTE: 1. Enter no. of prints, center temperature and latitude and longitude data by using numeral keys.

2. When "VIS" is selected.



3. When "picture processing" is selected.
Press [↓] ;



Function key [F 5] (ON/OFF) turns the presently selected picture processing function (Int. Rej or Temp. contour) on and off. (Interference rejection and temperature contour can be turned on concurrently.)

Once the picture processing is turned on, the picture processed can not be restored to its original conditions.

(EX.)	Page	Setting	Picture on the screen
	1/10	INT REJ: ON	⟶ INT REJ: ON
	2/10	INT REJ: OFF	⟶ INT REJ: ON

If interferance rejection is set to "ON" on page 2/10 as well, interference rejection is executed doubly on that page.

4. When several pages are set for "PRINT ON", the finally displayed picture is set up according to the conditions set for the highest page number.
(Ex.) 1/10, 2/10, 4/10 ----- "PRINT" : ON
⇓
The finally displayed picture is set up in accordance with the conditions set for page 4/10.

TO GO TO NEXT PAGE — [F 2] ----------> Setting procedure is the same as that for the page 1/10.

TO GO TO PRECEDING PAGE — [F 1]

TO SAVE TO FD — [F 3] (pages 1/10 to 10/10)

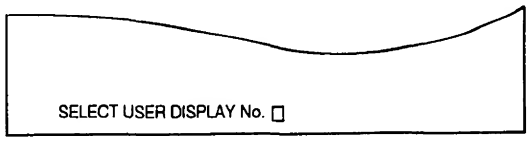
TO LOAD FD — [F 4]

TO RETURN CONTROL TO LAST USED DISPLAY SCREEN — [ENT] ⇒ [ESC] ⇒ [ESC]

CHANGING PICTURE DISPLAY MODE

CALL UP USER DISPLAY MENU

[MENU] ⇒ [1] ⇒ [ENT]



SELECT DISPLAY MODE

Specify number (1~10) ⇒ [ENT]

↓

Page number of Auto Print Mode

The presently displayed picture is immediately set up according to the conditions of the page number selected.

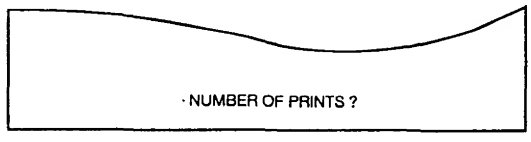
PRINTING

CONFIRMATION

(1) Printing paper and ink sheet are correctly set.
(2) Printer and printer I/F are turned on.
(3) No printer error messages are displayed.

STARTING PRINTING

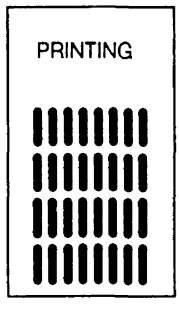
[PRINT] ----------→



Specify no. of prints ([1] ~ [9])

↓

[2] ⇒ [ENT] ------→



Transmission time of 32 bit data is counted down on-screen, and takes approx. 4 min to complete. To cancel printing, press [F6].

(For one (1) print, simply hit [ENT].)

NOTE: 1. All keys except for [F6] (cancels printing) are inoperative during transmission.
2. After transmission is completed, printing is completed in;

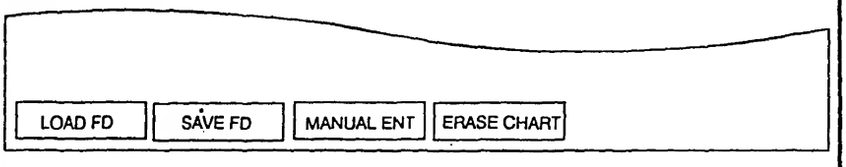
SU – 182	SU – 806
2.5 min.	4.5 min.

PLOTTING CHART/EVENT DATA

1) CHART DATA: Save chart data (max. 1024 pts.) onto FD.
2) EVENT DATA: Such as current rip, typhoon, etc. (max. 200pts.)

BEFORE PLOTTING CHART DATA, ERASE CHART DATA STORED IN THE MEMORY.

MENU ⇒ 7 ⇒ ENT



F 4 (Erase chart)

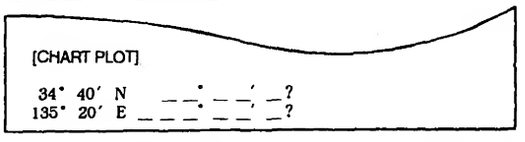
(1) Input by L/L Position

PREPARATION

Prior to entering L/L data, record it in a log.

CHART DATA

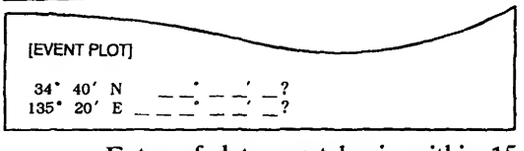
MENU ⇒ 7 ⇒ ENT ⇒ F 3



Entry of data must begin within 15 sec., otherwise the screen will be erased.

EVENT DATA

MENU ⇒ 8 ⇒ ENT



Entry of data must begin within 15 sec., otherwise the screen will be erased.

ENTER CO-ORDINATES

Latitude data → ENT
Longitude data → ENT

} Buzzer is released every input.

TO EXIT

ESC ⇒ ESC (For chart data plotting, hit ESC three times.)

(2) Input by Cross Cursor/Partial Correction (erasure)

(Cross cursor not operative in × 0.5 zoom.)

PREPARATION

Enlarge desired area. (See page 14.)

CALL UP CROSS CURSOR

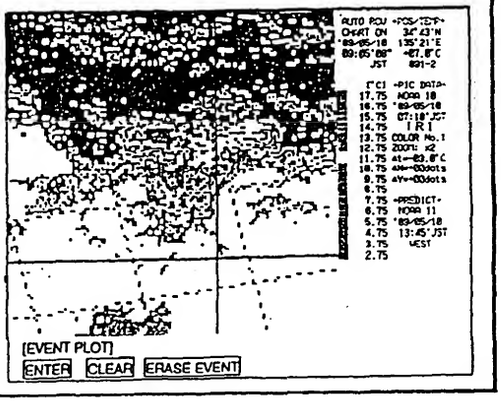
CHART (Memory)

EVENT (Memory)

⇓

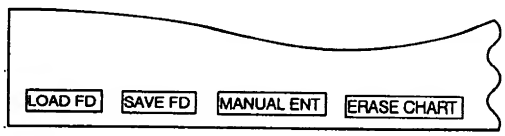
TO ERASE ALL EVENT DATA

F 3 (Erase event)

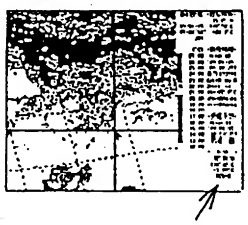


INPUT	Locate the cross cursor on the desired L/L pos. -----> [F 1]
ERASE	Locate the cross cursor on the desired L/L pos. -----> [F 2]
TO EXIT	[ESC]

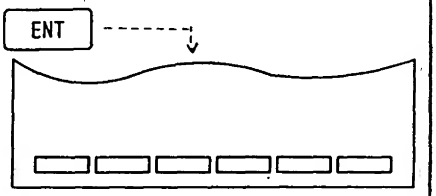
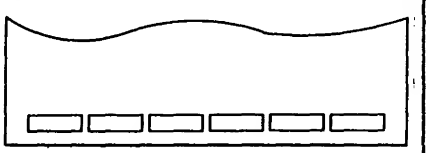
SAVING/LOADING CHART DATA

PREPARATION	Insert FD onto which chart data is to be saved.
CALL UP CHART DATA MENU	[MENU] ⇒ [7] ⇒ [ENT] ----- 
SAVE TO FD	[F 2] (Plotted chart data is saved.)
	NOTE: To load data from a FD, insert FD containing chart data to be loaded, then press [MENU] ⇒ [7] ⇒ [ENT] ⇒ [F 1].

READING WATER TEMP. & L/L DATA OF CROSS CURSOR POSITION (inoperative in × 0.5 zoom)

LOCATE CURSOR ON L/L POSITION DESIRED	[+] ⇒ { [↑] [←] [→] [↓] } To erase the cross cursor, press [IMAGE] (above [+] key). 
	The L/L position of the cross cursor intersection and water temperature there are displayed at the lower right-hand corner of the screen.
	NOTE: To return the cross cursor to the screen center, press [+] key again.

ERASING ALL CMT DATA (FORMATTING CMT)

PREPARATION	Insert CMT to be erased/formatted. (CMTs equipped with the unit are pre-formatted.)
CALL UP SYSTEM INITIALIZATION MENU	MENU ⇒ 2 ⇒ 0 ⇒ ENT 
GO TO NEXT PAGE	F 6 (Next) 
TO FORMAT/ERASE CMT	F 2 ⇒ ENT (Data stored on the tape, if any, will be erased.)
TO RETURN CONTROL TO LAST USED DISPLAY SCREEN	ESC ⇒ ESC

FORMATTING FLOPPY DISK (FD)

PREPARATION	Insert FD to be formatted. (FDs equipped with the unit are pre-formatted.)

There are three ways to format a floppy disk:

1. "System save" function (Ref to page 23)
2. "Copy from FD to FD" function (Ref to page 24)
3. "Floppy disk drive test" in self diagnosis test

MENU ⇒ 2 ⇒ 0 ⇒ ENT ⇒ F 6 ⇒ F 5

```
SU - 18    TEST PROGRAM          0850 - 0122 - XXX

<1> MEMORY
<2> ACRTC
<3> DTY
<4> RFC
<5>
<6> CMT
 :    :

          No. □
```

5 ⇒ ENT ⇒ ENT

ENTERING NEW SATELLITE DATA

(1) With all-wave receiver

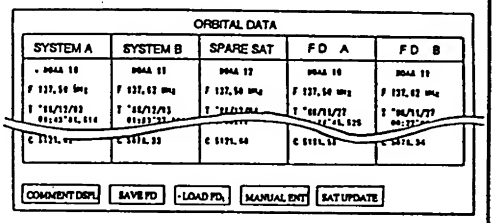
CALL UP ORBITAL DATA MENU

MENU ⇒ 2 ⇒ ENT

SATELLITE UPDATE

F 5 ⇒ ENT

(Spare satellite data is entered into system A or B.)



TO RETURN CONTROL TO LAST USED DISPLAY SCREEN

ESC ⇒ ESC

(2) Without all-wave receiver

Enter new data, as directed on page 4, making sure to register the number of the new satellite.

SYSTEM SAVE

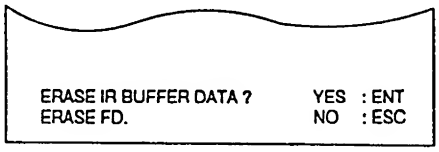
If you mistakenly initialize a floppy disk containing system program, orbital data, etc., those data in the memory of the unit can be saved to FD by using this function, keeping the power on. Note that once the power is turned off, system program data can not be retrieved to the FD.

CALL UP SYSTEM INITIALIZATION MENU

MENU ⇒ 2 ⇒ 0 ⇒ ENT

CALL UP SYSTEM SAVE MENU

F 6 ⇒ F 3



TO SAVE SYSTEM DATA TO FD

ENT (Data in IR memory is erased.)

TO RETURN CONTROL TO LAST USED DISPLAY SCREEN

ESC ⇒ ESC

COPY FROM FLOPPY DISK(FD) TO FD

PREPARATION

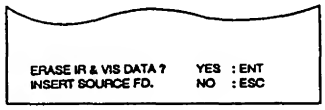
Insert a source FD containing system data (system program, orbital data, etc.).

CALL UP SYSTEM INITIALIZATION MENU

[MENU] ⇒ [2] ⇒ [0] ⇒ [ENT]

CALL UP COPY MENU

[F 6] ⇒ [F 4] ----------→

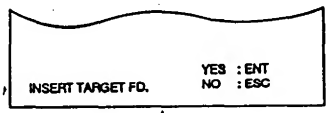


LOAD FD DATA TO MEMORIES

[ENT] (Data in IR/VIS memories are erased.)

↓

"LOADING FD" displayed ---------→



↓

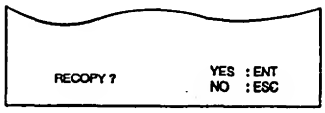
Insert a target FD.

SAVE DATA TO A TARGET FD

[ENT]

↓

"SAVING FD" displayed -----→



RECOPY TO ANOTHER FD

Insert another target FD. ---→ [ENT]

TO FINISH COPY

[ESC] (To return control to last used display screen, press [ESC] three times.)

TEMPERATURE DISPLAY (Infrared picture)

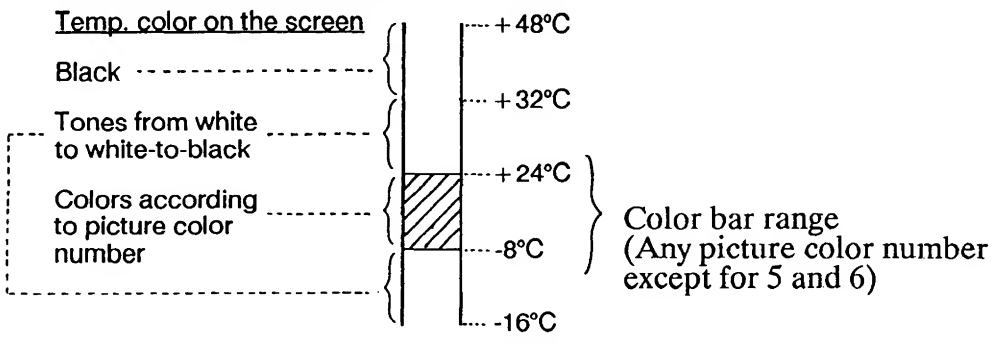
This unit displays temperature colors from -16°C to +48°C. Temperature display within above range is as follows.

-16°C to +32°C : Tones from white to white-to-black
+32°C to +48°C : Black

NOTE: Temperatures lower than -16°C and higher than +48°C are displayed in white and black, respectively.

However, when a color bar range (16 colored gradation) is selected, the selected range is displayed in colors according to the picture color number and the other ranges (outside the range of the color bar) are shown in tones and black as mentioned above.

(EX.) In case that color bar range is -8°C to +24°C.



NOTE: Only when picture color number 5 or 6 is selected, temperatures outside the range of the color bar are shown in black and white (not tones).

ENTERING DATA (orbital data, date & time, L/L position, etc.)

Press [ENT] after each line of data entered.

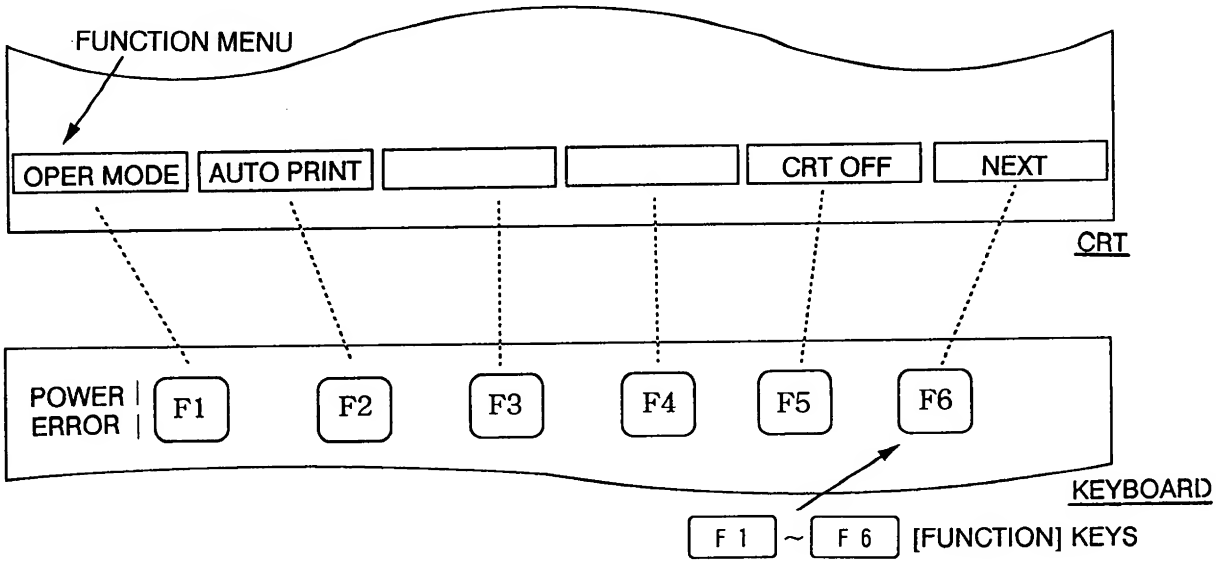
Press [ENT] to retain presently used data.

To clear incorrect data, press [C] ----------> Entire line of data is erased. (Note however that if the cursor is at the head of a line of data when this key pressed the preceding line is erased.)

FUNCTION KEYS

The function keys, labeled F1~F6 at the top of the keyboard, are used to select a function menu, which is displayed across the bottom of the screen.

(Ex.) The menu below (SYSTEM INITIALIZATION) is displayed following the key strokes of [MENU] ⇒ [2] ⇒ [0] ⇒ [ENT]

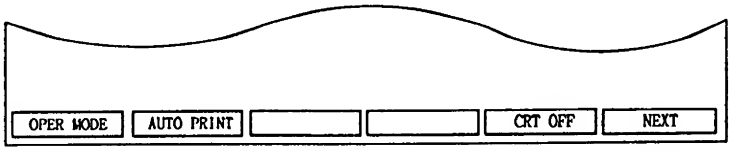


To select the OPER(ating) Mode menu, for example, press [F 1].

SYSTEM (Operating Mode) INITIALIZATION

CALL UP SYSTEM INITIALIZATION MENU

[MENU] ⇒ [2] ⇒ [0] ⇒ [ENT]



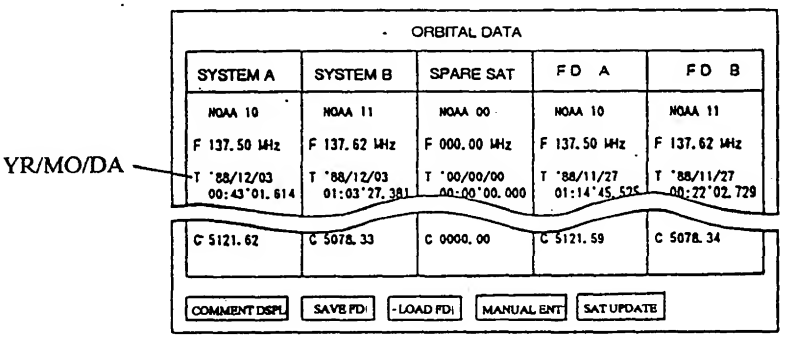
TO SELECT OPERATING MODES

[F 1] ---> The OPER Mode menu is displayed, as shown at the top of the next page. OPER Mode data is retained in the memory whenever the power is turned off.

(To read OPER mode data stored on a FD, press [F 2]. To escape from this mode, press [ENT].)

	DATE/TIME JST UTC . . . (time standard) DATE/TIME READ AUTO MAN . . . (AUTO: SATNAV/GPS required) TEMPERATURE READ AUTO MAN . . . (AUTO: temp. indicator required) L/L POSITION READ AUTO MAN . . . (AUTO: Navigation aid required) NAVIGATION LORAN A LORAN C DECCA DR OMEGA SATNAV GPS RECEIVING MODE AUTO MAN . . . (after power is applied satellite forecast calculation is initiated) AUTO TEMP CALIB ON OFF . . . (automatic temperature calibration for each satellite. Compensation value is set on MENU "14".) AUTO IR ON OFF / CMT REC VIS ON OFF . . . (automatic recording after picture is completely received) (00:00-00:00) . . (time range for automatic visible-light picture recording) RTTY SHIFT WIDTH 850 425 / SHIFT MODE NOR REV / BAUD RATE 50 75 . . . (receiving mode of internal teletype) AUTO CHART DISPLAY ON OFF . . . (chart is automatically displayed after picture is completely received) [SAVE FD] [LOAD FD] (Saving data to FD/loading data from FD for all modes above)
SET EACH MODE (from "date/time" to "auto chart display")	[↑] [←] [→] [↓] Locate the cursor on the mode desired, by operating the arrow keys. The selected mode is underlined.
TO SAVE DATA TO FD	[F 1] (takes approx. 10 sec.)
TO REGISTER SELECTIONS	[ENT] (Press to register selections and escape from OPER mode.) (After [ENT] is pressed, satellite forecast, which takes several seconds to complete, commences if the automatic receiving mode is selected.)
TO RETURN CONTROL TO LAST USED DISPLAY SCREEN	[ESC] ⇒ [ESC] (TWICE)

CONFIRMING ORBITAL DATA

CALL UP ORBITAL DATA MENU	[MENU] ⇒ [2] ⇒ [ENT] 
CONFIRMATION	If DATE/TIME data 10 days before is displayed or when all zeroes are displayed, orbital data should be updated.
TO EXIT	[ESC] ⇒ [ESC] (TWICE) -----→ Control is returned to last used display screen.

UPDATING ORBITAL DATA

(Performed automatically when SU-18 is interfaced with an all-wave receiver. Manual updating should be done weekly.)

(1) AUTOMATIC ENTRY

PREPARATION

The all-wave receiver is properly tuned when the two LED's of the DTY tuning indicator light alternately.

CONFIRM RTTY RECEIVING CONDITION

MENU ⇒ 1 ⇒ 8 ⇒ ENT

SU-18 RTTY CHECK
0 1 2 3 4 5 6 7 8 9 0 1 2 3----------7 8 9

NOTE: If the data contains errors (for example, randomly placed question marks [?] or exclamation marks [!]), change to another freq.

TO RETURN CONTROL TO LAST USED DISPLAY SCREEN

ESC ⇒ ESC

(2) MANUAL ENTRY

PREPARATION

Orbital Data

CALL UP ORBITAL DATA MENU

MENU ⇒ 2 ⇒ ENT

MANUAL ENTRY

F 4 ------>

M -2.80984	M -2.64624	M -._____
R 0.98284	R 0.99206	R _.____
C 5121.62	C 5078.33	C ____._

SYSTEM A | SYSTEM B

SPECIFY SATELLITE

F 1 ⇒ 1 ⇒ 0 ⇒ ENT

(To select 137.50MHz.)

ORBITAL DATA

SYSTEM A	SYSTEM B	SYSTEM A
NOAA 10	NOAA 11	NOAA10
F 137.50 MHz	F 137.62 MHz	F 137.50 MHz
T '88/12/03 00:43'01.614	T '88/12/03 01:03'33	T '__/__/__

SELECT A OR B WITH FUNCTION KEY.
137.50 MHz A
137.62 MHz B

ENTER ORBITAL DATA

T : 88 ⇨ 91 ⇨ 01 ⇨ 1 ⇨ 01 ⇨ 7 ⇨ ENT

(other data)

YR (last 2 digits) MO DAY

UPDATING ANOTHER SATELLITE

F 2 ⇒ 1 ⇒ 1 ⇒ ENT -> Enter data as above.

(To select 137.62MHz)

TO EXIT

ESC ⟹ ESC ⇒ ESC -----> Returns control to last used display screen.

Takes several seconds to change screen.

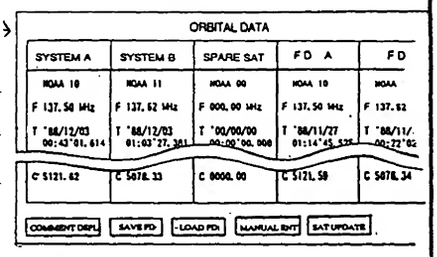
SAVING/LOADING ORBITAL DATA ON FD

PREPARATION

Insert FD containing data to be saved/loaded.

CALL UP ORBITAL DATA MENU

[MENU] ⇒ [2] ⇒ [ENT] --->

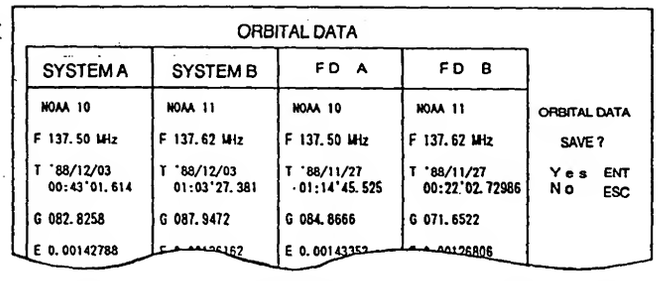


(Before loading data, confirm that orbital data stored on the FD is not older than system data. Then,

[F 3] ⇒ [ENT].)

SELECT FD SAVE

[F 2] ---->



NOTE: Confirm that orbital data stored on the FD is older than system data.

SAVE TO FD

[ENT]

TO RETURN CONTROL TO LAST USED DISPLAY SCREEN

[ESC] ⇒ [ESC]

CONFIRMING CIF DATA

CONFIRMATION

CIF connector is securely plugged in.

CALL UP SYSTEM INITIALIZATION MENU

[MENU] ⇒ [2] ⇒ [0] ⇒ [ENT]

CALL UP SELF TEST

[F 6] ⇒ [F 5]

CALL UP CIF DATA CHECK DISPLAY

[1] ⇒ [1] ⇒ [ENT]

SU-18 CIF/NMEA RCV CHECK
0 1 2 3 4 5 6 7 8 9 0 1 2 3----------7 8 9

NOTE: Check time, L/L position and water temperature data for correctness.

TO RETURN CONTROL TO LAST USED DISPLAY SCREEN

[ESC] ⇒ [ESC] ⇒ [ESC]

CONFIRMING/ENTERING DATE & TIME

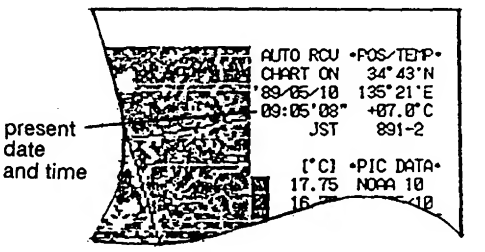
(Automatically executed if SATNAV or GPS is interfaced. Information is retained by a keep-alive battery whenever the power is removed.)

CONFIRMATION

Check date and time data for correctness.

⇓

If incorrect, disconnect CIF line and proceed to next step.



CALL UP DATE/TIME MENU

MENU ⇨ 3 ⇨ ENT

The time at the moment ENT key is pressed is displayed.

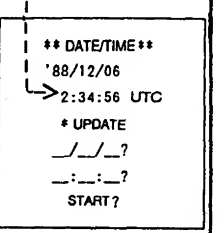
ENTER DATE AND TIME

□ ⇨ □ ⇨ □ ⇨ □ ⇨ □ ⇨ □ ⇨ ENT

YR (last 2 digits) MO DA

□ ⇨ □ ⇨ □ ⇨ □ ⇨ □ ⇨ □ ⇨ ENT

HR (24HR) MIN SEC (UTC)



Press ENT in synchronization with time signal.

⇓

Returns control to last used display screen.

If update is not required;

ESC ⇨ ESC

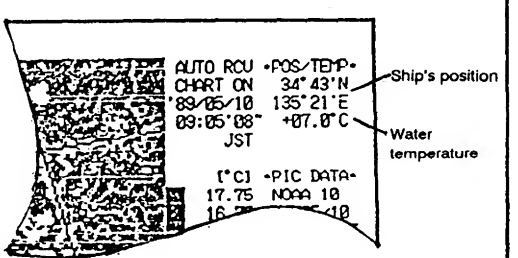
CONFIRMING/ENTERING L/L POSITION & WATER TEMPERATURE (at own ship)

CONFIRMATION

Check "POS/TEMP" data for correctness.

⇓

If incorrect, disconnect CIF line and proceed to next page.



CALL UP POSITION/ TEMPERATURE MENU

MENU ⇒ 4 ⇒ ENT

** POS/TEMP **
12°34'N
123°45'E
12.3°C
* UPDATE *

ENTER L/L POSITION

□ ⇨ □ ° □ ⇨ □ ′ ⇨ { N / S } ⇨ ENT (LAT)

□ ⇨ □ ⇨ □ ° □ ⇨ □ ′ ⇨ { E / W } ⇨ ENT (LON)

ENTER TEMPERATURE

□ ⇨ □ . ⇨ □ ℃ ⇨ ENT

Returns control to last used display screen.

If update is not required;

ESC ⇒ ESC

RECEIVING

(If the automatic receiving mode is selected, satellite forecast is conducted automatically. Do not transmit on 27MHz during receiving.)

CONFIRMATION

(1) Check orbital data, date and time and L/L position for correctness. (Refer to pages 3~7.)

(2) If "AUTO CMT REC" is selected, insert CMT. Recording commences after picture is completely received.

CALL UP RECEIVE PREDICT MENU

MENU ⇒ 1 ⇒ 1 ⇒ ENT

CALCULATION SKIP

PREDICT
(Receiving times which are 10 minutes or later of present time can be calculated.)

F 1 (calculation)

PREDICT
CALCULATING

(keys inoperative during calculation)

16.75 NOAA 10
15.75 '89/05/10
14.75 07:18'JST
13.75 IR1
12.75 COLOR No.1
11.75 ZOOM: x2
10.75 Δt=-03.0°C
9.75 ΔX=+00dots
8.75 ΔY=+00dots
7.75
6.75
5.75
4.75
3.75
2.75

approx. 5~20 sec.

PREDICT
NOAA 10
'88/12/07
18:29'JST
EAST

(Keys operative)

TO CANCEL RECEIVING (MAN mode), TO CALCULATE NEXT RECEIVING TIME (AUTO mode)

F 2 (skip)

TO TURN OFF ONLY CRT POWER (RECEIVING/AUTO REC ARE EXECUTED.)

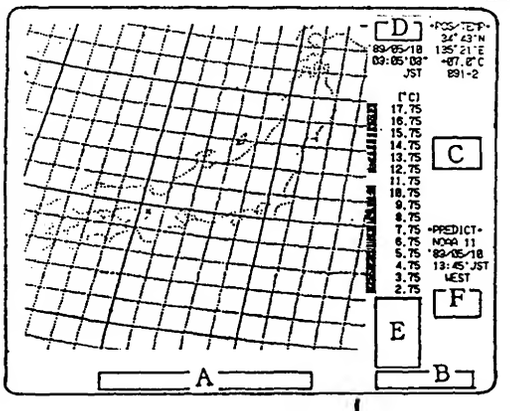
MENU ⇒ 2 ⇒ 0 ⇒ ENT ⇒ F 5

To return control to last used display screen;

MENU ⇒ ESC

RECEIVING

The sequence of receiving is as follows.



LOCATION OF MESSAGE — MESSAGE

F — 30 MIN BFR.

↓ Time message is displayed every 5 min.

A — END KEY HANDLING

F — 5 MIN BFR

↓ Keys are inoperative.

B — GRID CALCULATION (painting of grid begins.)

↓

C — RCV AWAIT

↓ When receiving begins.

D — RECEIVING (*)

(*)"PICTURE PROCESSING" is simultaneously displayed at lower right-hand side of screen.

↓ approx. 8 min. 30 sec. later.

D — RCV OK

↓ "RCV ABNORM" is displayed when the orbital path of the satellite is east or west.

GRID CALIBRATION

↓ approx. 20 sec.

E — COORD CONV

Only when "chart display" is selected at OPER Mode.

↓ approx. 1 min. for 1000pt chart.

"PICTURE PROCESSING" is erased and a buzzer is released.

Automatic recording and printing are executed if Auto. CMT REC and Auto Print Mode (page 17) are selected. If automatic receiving is selected, satellite forecast is automatically executed.

GRID CALIBRATION

(For aligning chart with picture. Not operative in × 0.5 zoom.)

PREPARATION

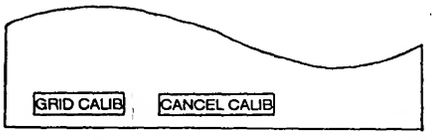
(1) Perform calibration on area which you use often.

(2) For ease of calibration, enlarge a nearby island, coastline, etc. Refer to page 14.

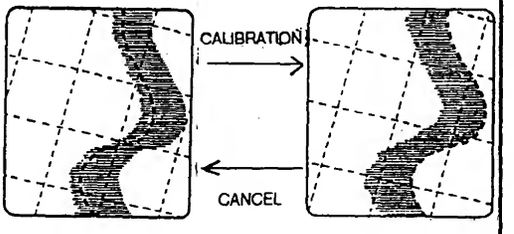
(3) If necessary, perform shade range enhancement. Refer to page 14.

CALIBRATION

GRID CALIB ----------→



↑ ← → ↓ ⇒ F 1



TO CANCEL CALIBRATION

GRID CALIB ⇒ F 2

TEMPERATURE CALIBRATION

(Calibration by own ship pos. [no clouds or fog overhead of own ship] or by cursor pos. [where no clouds or fog overhead of cursor pos.])

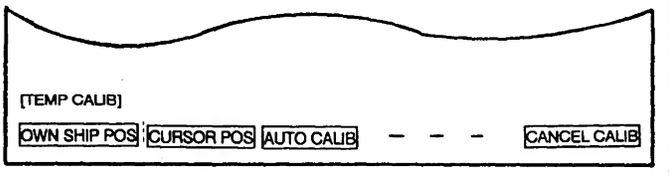
CONFIRMATION

Check water temperature data for correctness.

(MENU ⇒ 4 ⇒ ENT)

CALIBRATION BY OWN SHIP'S L/L POSITION

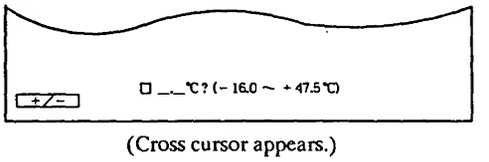
TEMP CALIB ------→



F 1 (own ship pos)

CALIBRATION BY CURSOR POSITION

TEMP CALIB ⇒ F 2 -------→



(Cross cursor appears.)

↑ ← → ↓

Place the cross cursor where no clouds or fog exists.

ENTER TEMP. DATA	[F 1] (" + " or "–" indication is presented alternately every pressing of this key.) ℃ [ ] ⇒ [ ] . ⇒ [ ] ⇒ [ENT] (Temp. data) Returns control to last used display screen. NOTE 1. Input temp. value may be differrent from value displayed at the lower right-hand side of the screen, since inputted value is rounded off to nearest 0.25°C. (EX.) Input value ⇒ Displayed value 12.3 ⇒ 12.25 12.8 ⇒ 12.75 12.9 ⇒ 13.0 NOTE 2. Δt value is used as a temperature calibration value for a satellite.
TO CALIBRATE DISPLAYED PICTURE	[TEMP CALIB] ⇒ [F 3] (Compensation value, which is set on MENU "14", becomes effective for presently displayed picture.) NOTE: This function is inoperative for pictures recorded using program version number-12 and earlier.
TO CANCEL CALIBRATION	[TEMP CALIB] ⇒ [F 6]

AUTOMATIC TEMPERATURE CALIBRATION

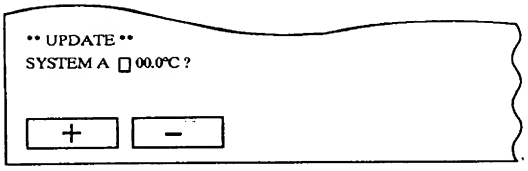
(Temperature errors generated by a satellite itself can be automatically compensated each time a satellite signal is received.)

PREPARATION	Turn the automatic temperature calibration function on in the OPER Mode.
CALL UP TEMP. CALIB DATA INPUT MENU	[MENU] ⇒ [1] ⇒ [4] ⇒ [ENT] ** TEMP CALIB DATA ** SYSTEM A NOAA 10 00.0°C SYSTEM B NOAA 11 00.0°C ** UPDATE ** SYSTEM [ ] ? [SYSTEM A] [SYSTEM B]

SPECIFY SATELLITE

F 1 ----→SYSTEM A (137.50 MHz → NOAA 10)

F 2 ----→SYSTEM B (137.62 MHz → NOAA 11)



ENTER TEMP. CALIBRATION DATA

F 1 ----→ "+"

F 2 ----→ "−"

□ ⇒ □ ⇒ □ ⇒ ENT

(calib value = Δt value)

Returns control to last used display screen.

NOTE 1. Input calibration value may be different from value displayed as "TEMP CALIB DATA" at the top of the screen.

(EX.)

Tenth's digit of input data		Tenth's digit of displayed data
0, 1, 9		0
2 ~ 3		2
4 ~ 6	⇒	5
7 ~ 8		7

RECORDING

(Received picture is automatically recorded when automatic recording mode is selected. However it is uncompensated raw data.)

PREPARATION

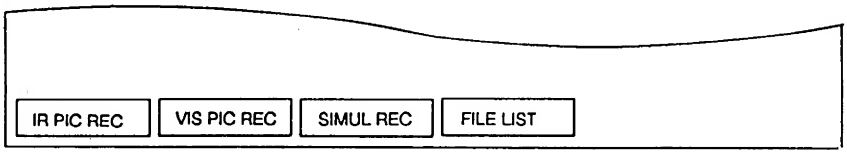
(1) Insert a cassette tape. (storage capacity: 41 pictures, or 40 pictures in the case of simultaneous recording of IR/VIS pictures.

(2) Insert a floppy disk (FD) for recording. When picture is recorded on a FD, all data (system program, etc.) stored in the FD will be erased.
(Storage capacity: 1 picture/FD. Recording time to FD is much faster than that to CMT.)

CALL UP CMT RECORD MENU

(1) Cassette Tape

MENU ⇒ 5 ⇒ ENT



SELECT MEMORY BANK TO BE RECORDED

[F 1] (Infrared picture memory --- MEMO 1)

[F 2] (Visible-light picture memory --- MEMO 2)

[F 3] (Both IR/VIS memory)

[F 4] (File search)

NOTE: This unit has two picture memory banks to which data can be stored. The memory bank where the presently displayed picture is saved is shown at the right-hand side of the screen. See table below. For example, if "1•VIS" is displayed, the pesently displayed picture (visible-light picture) is saved in the infrared picture memory. Then, to record the picture saved in the infrared picture memory, you would press [F 1]. At this time, file number where the picture is recorded is displayed at the bottom of the screen.

Memory bank in use	Type of picture	Indication at right-hand side of the screen
Infrared (MEMO 1)	Infrared	IR
	Picture after processing	IR1
	Visible-light	1•VIS
Visible-light (MEMO 2)	Visible-light	VIS
	Picture after processing	IR2
	Infrared	2•IR

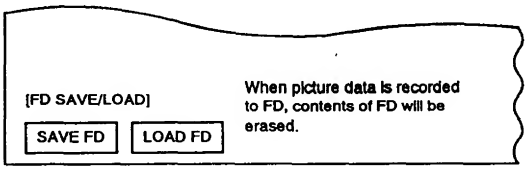
TO RETURN CONTROL TO LAST USED DISPLAY SCREEN

[ESC] ⇒ [ESC]

CALL UP FD SAVE/LOAD MENU

(2) Floppy Disk

[MENU] ⇒ [1] ⇒ [3] ⇒ [ENT]



SAVE TO FD

[F 1] ⇒ [ENT]